

WORKSHOP ON EU Economic and Social Dimensions of Sport

Example of exercise programs in Portugal applied for different kinds of populations and their benefits. How to develop a study to characterize the population, and possible implications for policy strategies.

Yerevan 24th October 2011
Armando M. M. Raimundo

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SEDENTARY LIFESTYLE



- Cardiovascular diseases
- Diabetes
- Obesity (increasing also in children)
- Osteoarthritis
- Osteoporosis
- Metabolic diseases

Meyer H., Sogaard A., Tverdal A., and Selmer R., *Body Mass Index and Mortality: the Influence of Physical Activity and Smoking*. Med Sci Sports Exerc, 2002. 34(7): p. 1065-1070.

Fang J., Wylie-Rosett J., Cohen H. W., Kaplan R. C., and Alderman M. H., *Exercise, body mass index, caloric intake, and cardiovascular mortality*. Am J. Prev Med, 2003. 25(4): p. 283-9.

Fransson E. I., Alfredsson L. S., de Faire U. H., Knutsson A., and Westerholm P. J., *Leisure time, occupational and household physical activity, and risk factors for cardiovascular disease in working men and women: the WOLF study*. Scand J. Public Health, 2003. 31(5): p. 324-33.

Lee I. M., Rexrode K. M., Cook N. R., Manson J. E., and Buring J. E., *Physical activity and coronary heart disease in women: is "no pain, no gain" passe?* JAMA, 2001. 285(11): p. 1447-54.

USDHHS, U.S. Department of Health and Human Services. *Physical Activity and Health: A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion. 1996, USDHHS.

McTiernan A., Kooperberg C., White E., Wilcox S., Coates R., Adams-Campbell L. L., Woods N., and Ockene J., *Recreational physical activity and the risk of breast cancer in postmenopausal women: the Women's Health Initiative Cohort Study*. JAMA, 2003. 290(10): p. 1331-6.

Bauman A. E., *Updating the evidence that physical activity is good for health: an epidemiological review 2000-2003*. J. Sci Med Sport, 2004. 7(1 Suppl): p. 6-19.

Nelson M. C., Gordon-Larsen P., North K. E., and Adair L. S., *Body mass index gain, fast food, and physical activity: effects of shared environments over time*. Obesity (Silver Spring), 2006. 14(4): p. 701-9.

Incapacity

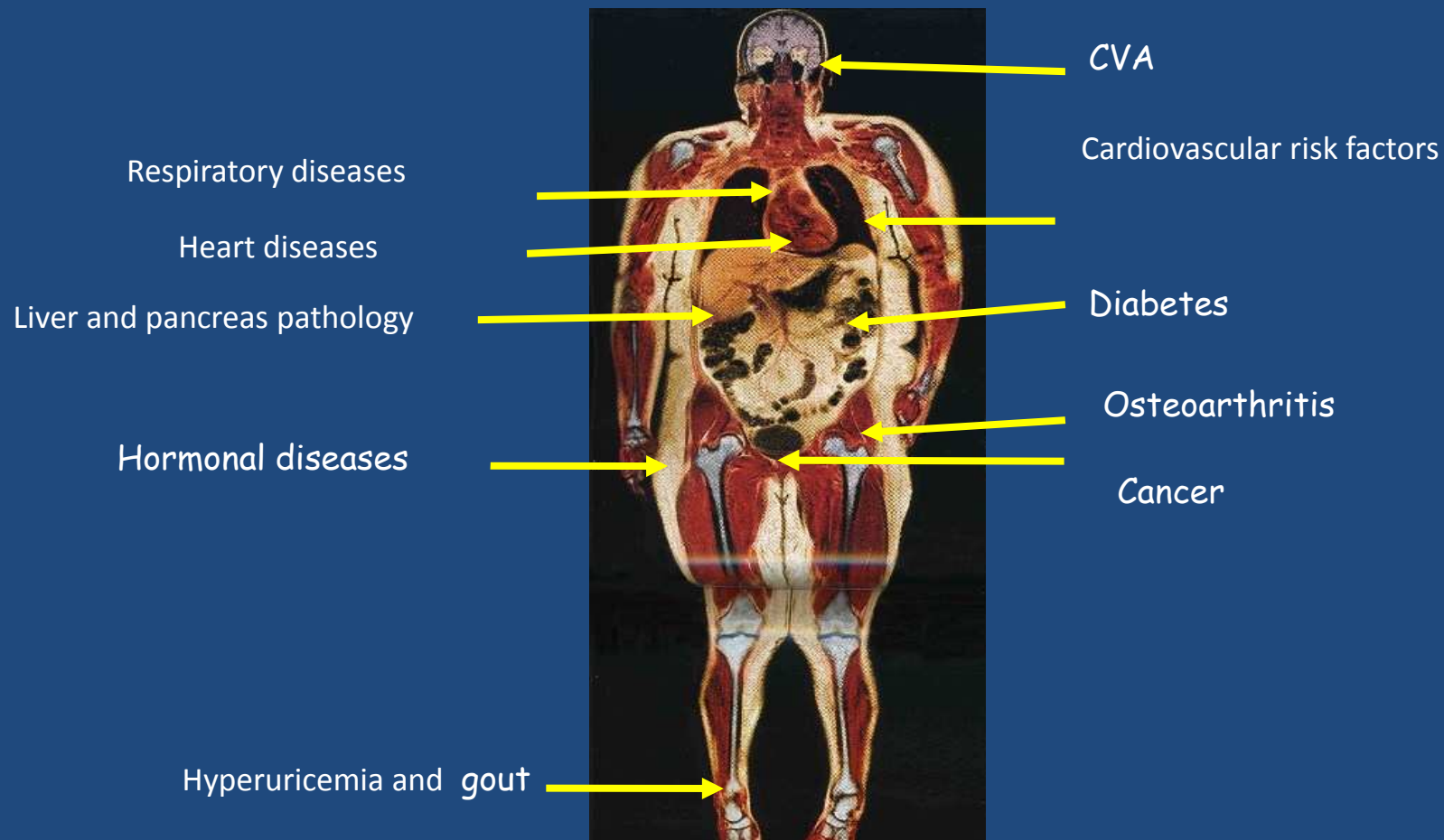
- Daily Life activities
- Walk

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Overweight and obesity



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DEMOGRAPHICS IN PORTUGAL

Life expectancy (ENI 2008):

- Males – 75,1 years
- Females – 81,6 years

Changes between the last two censuses (10 years):

Young populations – 20% to 16 %

Older populations – 13,6% to 16,4%

Alentejo

Older populations – 22,3%

Young populations – 13,7/%

Estimate to 2030

People over 65 years – 25% of the population in Portugal



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(SOME) DEMOGRAPHIC DATA

65 and + Europe Union (EU-27)

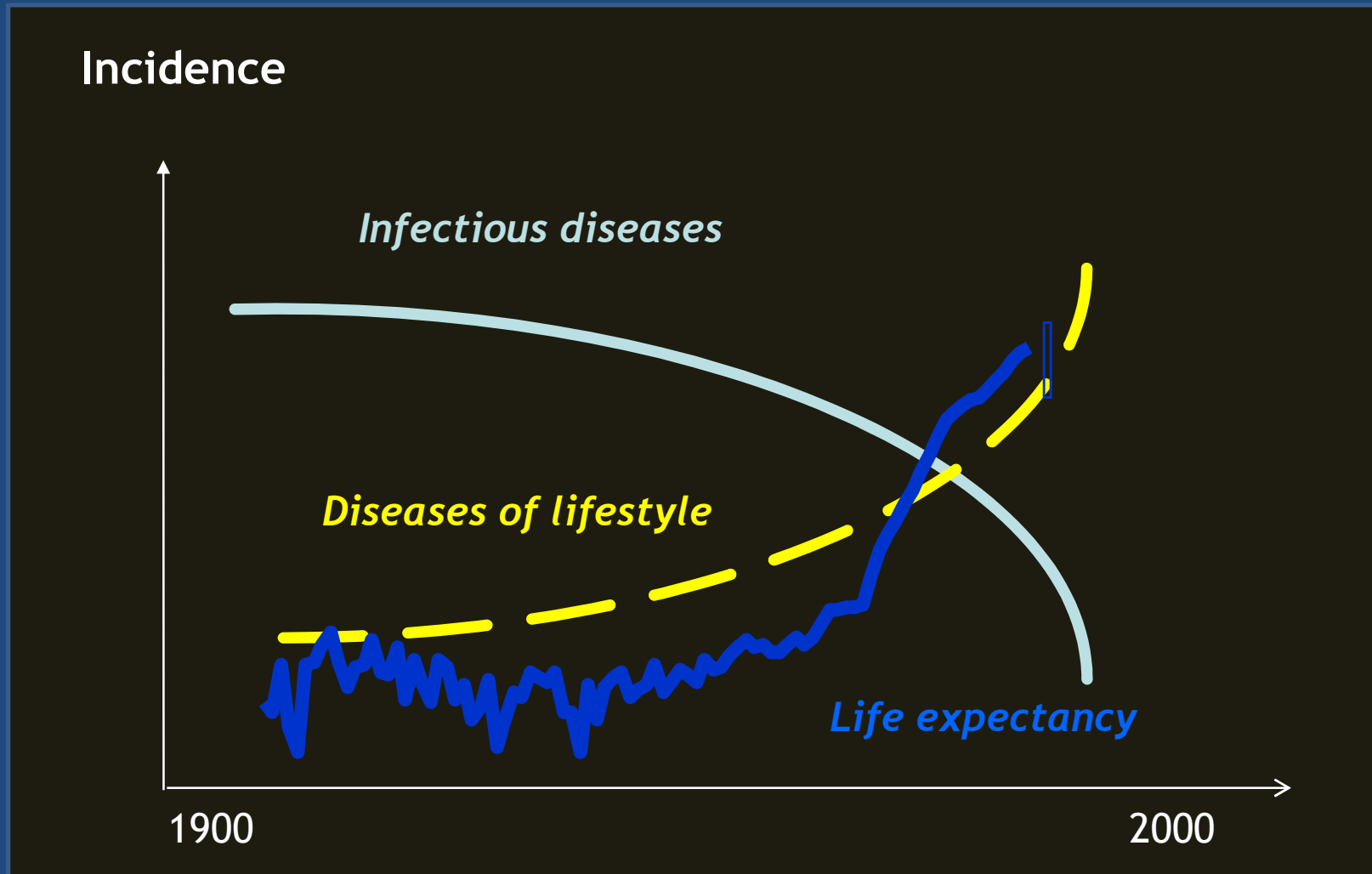
2004	2050
86 million	141 million

Very old ages (80 +)

2004	2050
18 million	50 million

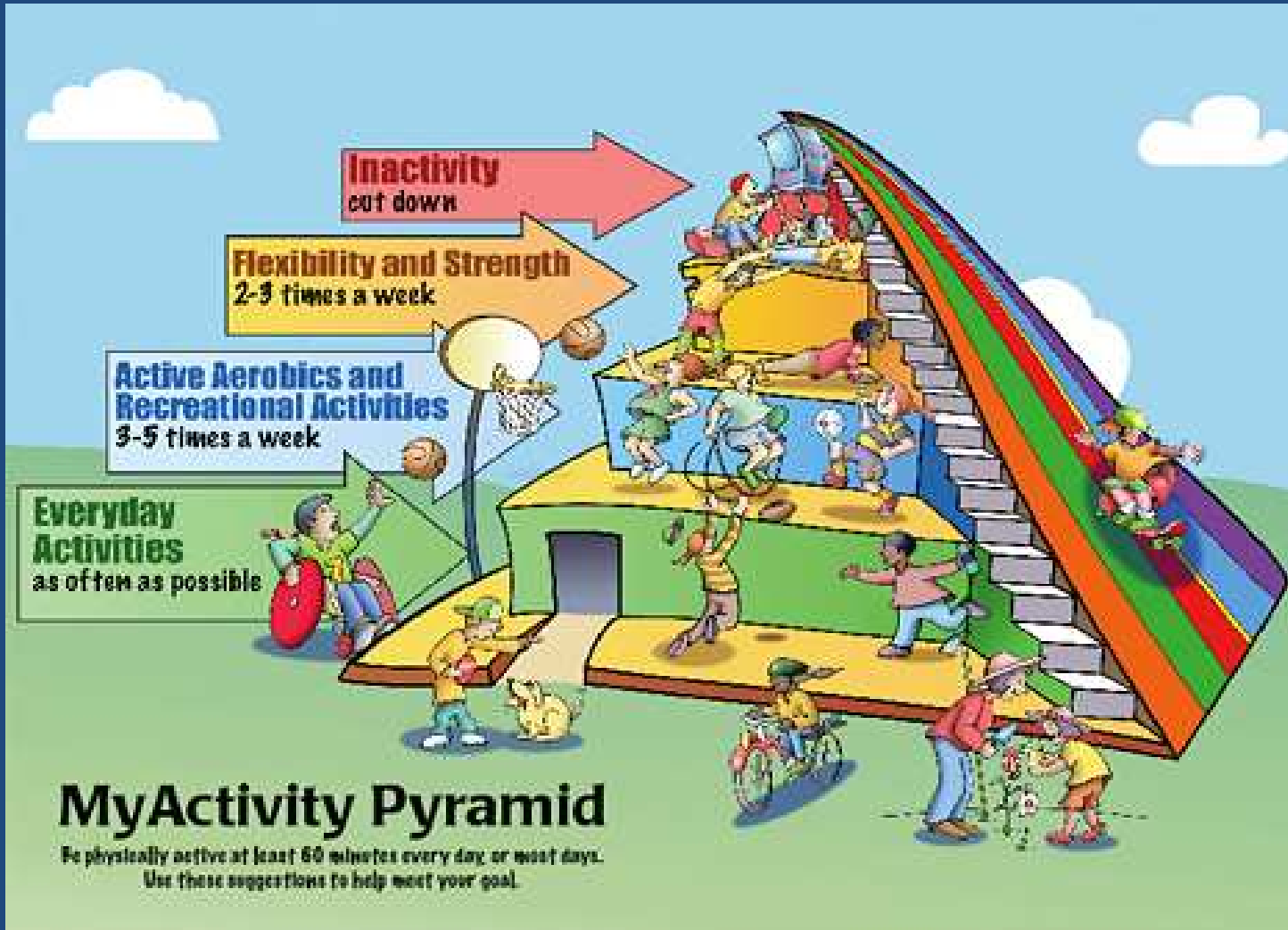
European Comission (2008). *What can the European Union do to protect dignity in old age and prevent elder abuse?* Brussels: Employment, Social Affairs and equal Opportunities DG

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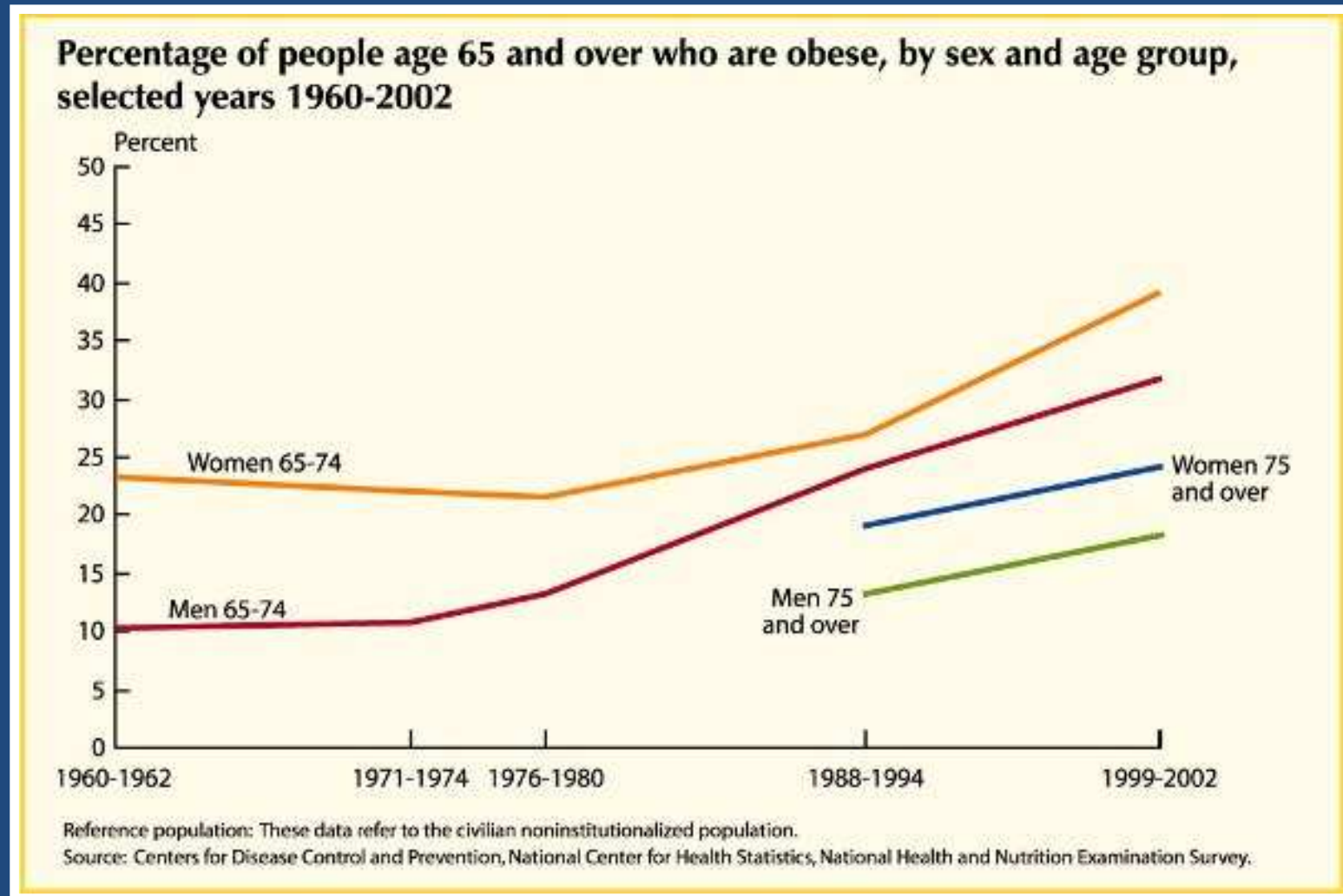
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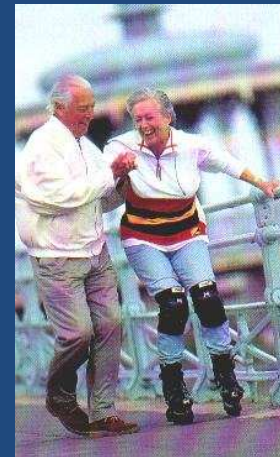
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Only healthy people can exercising

I'm too old to start exercising

You need a lots of intensity to obtain benefits



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STRATEGIES POLICIES

DEVELOPMENT OF EXERCISE
PROGRAMS

SUPPORT THE COSTS OF
MEDICAL CARE



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Project
National Walking and Running Program
Responsible/contact
Institute of Sports of Portugal (IDP) – Paulo Colaço
Start and end of the project
2009 – still in progress
Target population
General population
Aim of the project
<ul style="list-style-type: none">• Mobilize the population for the practice of walking and running• The creation of local initiatives that increase opportunities for individual or group practice of walking and running• Promote and encourage the regular practice of physical and sporting activity of the population• To counter the habits of sedentary lifestyle

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Budget

The project's direct costs are € 140.000,00 (support IDP), the indirect costs of the municipalities with the establishment and maintenance of the centers are not counted

Number of professionals involved

5 at central level (three 100% and two partial)

Number of participants

19.000 in 2010

Main results

The benefits in terms of health for people has not yet been quantified, although there are studies that support the health benefits in terms of such activities

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Project

National Physical Activity Plan

Responsible/contact

Institute of Sports of Portugal (IDP) – João Pedro Graça (joao.graca@idesporto.pt)

Start and end of the project

Finished the phase of General Planning. It is expected the implementation phase in January 2012 and be fully operational by May 2013

Target population

Population of mainland Portugal and the Autonomous Regions mainly young people and elderly women

Aim of the project

- Reduce the rates of physical inactivity to 30% in 3 years
- Implement by the May 2012 50% of the measures established by the European guidelines for physical activity in 2008.
- Implement by the May 2013 100% of the measures established by the European guidelines for physical activity in 2008.

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Budget

Do not budgeted yet

Number of professionals involved

5 at central level (three 100% and two partial)

Number of participants

19.000 in 2010

Main results

Data

- Number of regular practitioners of sports.
- Rates of a sedentary lifestyle.
- Level of Physical Fitness.
- Indices of Portuguese Culture Sports.
- All indicators of Sports and Physical activity used by Euro barometer

European Comission (2010). Special Eurobarometer 334 "Sport and Physical Activity".

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Project

Get Moving – National Program for Sports for All / National Program for the Promotion of Physical Activity and Sports

Responsible/contact

Institute of Sports of Portugal (IDP) - geral@idesporto.pt

Start and end of the project

Beginning in 2007, end in 2009

Target population

General Portuguese population

Aim of the project

- Motivate organizations for promoting physical activity
- Mobilize the sedentary population to include physical activity into daily lives
- To promote health
- Motivate municipalities to promote physical activity
- Promote research in the area of physical activity and sport
- Create awareness among future professionals for the promotion of physical activity

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Budget
1.185.115,00 €
Number of professionals involved
> 100
Number of participants
More than 1.000.000 of participations
Main results
Not measured

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Project

Curriculum enrichment activities in the 1st cycle

Responsible/contact

City Council of Faro (Algarve) - Pedro Filipe e Bruno Santos - ddj@cm-faro.pt

Start and end of the project

Start on October 2011, and will end on July 2012

Target population

Children of the 1st Cycle of Basic Education - Schools in the municipality of Faro

Aim of the project

Raise the functional level of the conditional and coordinative abilities of children;

- Working with colleagues on activities, understanding and knowing applying the rules correctly;
- Improve physical fitness;
- Create lifestyle linked to sport and physical lifestyles, thereby acquiring healthy;
- To develop on the children physical, psychological and social aspects.

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Budget
118.123,50 €
Number of professionals involved
25
Number of participants
1045
Main results
In course

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Project
Learn to Swim
Responsible/contact
City Council of Faro (Algarve) - Pedro Filipe e Bruno Santos - ddj@cm-faro.pt
Start and end of the project
Start on October 2011, and will end on May 2012
Target population
Students of the 1st and 2nd year 1st Cycle
Aim of the project
<p>Inform the importance of exercise for health promotion;</p> <ul style="list-style-type: none">• Promote lifestyle through regular physical activity;• Sensitize parents and students about the importance of the practice of physical and sporting activities;• Make the Water Environment Adaptation and basic swimming to disadvantaged children of the Center Community Garden Sand;• To provide underprivileged children access to activities that are not normally access, including water activities.

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Budget
82.165,70 €
Number of professionals involved
10
Number of participants
1162
Main results
In course

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Project
Get moving in Évora for your health
Responsible/contact
City Council of Évora - Óscar Tojo (oscartojo@cm-evora.pt)
Start and end of the project
2006 – still in progress
Target population
General population in the municipality of Évora
Aim of the project
<ul style="list-style-type: none">• Sensitize the population to carry out sports activities• Support within the possibilities of the Municipality all Sports Associations who develop this type of activity• To promote sporting activities (walking, fitness sessions and mountain biking / Cycling) in order to meet the different interests and sensitivities of the population throughout the year

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Budget
12.000,00 € / year
Number of professionals involved
1 on the City Council
Number of participants
18.000 persons in 2010
Main results
Not measured

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Project

Active seniors

Responsible/contact

City Council of Évora - Óscar Tojo (oscartojo@cm-evora.pt)

Start and end of the project

2007 – still in progress

Target population

Senior population of the Municipality of Évora – over 65 years

Aim of the project

- To promote physical activity and healthy lifestyles
- Mobilize the sedentary population integrating physical activity into daily routines
- Initiate senior citizens in physical activity through activities appropriate to their age and functional capacity
- Improving the functional and social autonomy of the elderly

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Budget
20.000,00 € / year
Number of professionals involved
3
Number of participants
500
Main results
Through questionnaires they concluded that the level of satisfaction with the activities offered was high as well the quality of life increased

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Project
PERSON Program
Responsible/contact
Luís Bettencourt Sardinha e Cláudia Minderico (claudia.minderico@dgidc.min-edu.pt)
Start and end of the project
2008-2012
Target population
Students in 2nd and 3rd cycle in schools
Aim of the project
Reduce excess weight and obesity in schools by promoting healthy lifestyle

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Budget
90.000,00 €
Number of professionals involved
Four at the Education Ministry and 120 on different schools
Number of participants
5000
Main results
Although still ongoing, there was already the following results: <ul style="list-style-type: none">- Students with lower fat mass have greater cardio-respiratory capacity;- Students with lower waist circumference are more cardio-respiratory capacity;- The most active students sleep better;- Students who eat more red meat have a higher relative risk of being overweight;- Students who eat fish 3 times per week have a lower relative risk of contracting overweight and obesity.- The most active students have higher bone mineral density.

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Project
Weight Programme
Responsible/contact
Luís Bettencourt Sardinha e Pedro Jorge Teixeira (lsardinha@fmh.utl.pt)
Start and end of the project
2002-2008
Target population
Women not menopausal who are overweight or obese Type I
Aim of the project
<ul style="list-style-type: none">• Improve physiological health by reducing fat mass and waist circumference as a consequence of proper nutrition and physical activity• Improve self esteem and consequently the social and psychological health
Budget
120.000,00 €

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Number of professionals involved

8

Number of participants

400

Main results

Rocha P, Barata J, Minderico C, Silva A, Teixeira P, Sardinha L, **Visceral Abdominal and Subfascial Femoral Adipose Tissue Have Opposite Associations with Liver Fat in Overweight and Obese Premenopausal Caucasian Women.** *Journal of Lipids*. 2011, 1-11.

Minderico C, Silva A, Teixeira P, Sardinha L, Hull H, Fields D. **Validity of air-displacement plethysmography in the assessment of body composition changes in a 16-month weight loss program.** *Nutrition & Metabolism* 2006, 3:32.

Palmeira A, Markland D, Silva M, Branco T, Martins S, Minderico C, Vieira P, Barata J, Serpa S, Sardinha L, Teixeira P. **Reciprocal effects among changes in weight, body image, and other psychological factors during behavioral obesity treatment: a mediation analysis.** *International Journal of Behavioral Nutrition and Physical Activity* 2009, 6:9.

Palmeira A, Teixeira P, Branco T, Martins S, Minderico C, Vieira P, Barata J, Serpa S, Sardinha L. **Predicting short-term weight loss using four leading health behavior change theories.** *International Journal of Behavioral Nutrition and Physical Activity* 2007, 4:14

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HOW TO DEVELOP A STUDY TO CHARACTERIZE THE POPULATION, AND POSSIBLE IMPLICATIONS FOR POLICY STRATEGIES.

Five Public Universities

More than 50 professionals involved

Starts 2008

Results were published 2011

Budget – 1.080.000,00 €

- National Observatory of Physical Fitness
- National Observatory of Physical Activity

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NATIONAL OBSERVATORY OF PHYSICAL FITNESS

35 340 portugueses

Youth (10-18 years)	Adults (19-64 Years)	Elderly (>64 years)
Fitnessgram ¹	Battery of specific tests of physical fitness	Functional Fitness Test from Rikli & Jones ²

Results³

1. About a quarter of young people (10 to 18 years) are overweight and obesity. These values are close to 50% in adults and 75% in the elderly;
2. Overweight and obesity is higher in males;
3. Most youth (61.2%) have a healthy cardiorespiratory fitness. About half of adults (48.2%) and elderly (54.9%) have a healthy cardiorespiratory fitness;
4. The participants with inadequate cardiorespiratory fitness, the vast majority is also overweight and obesity, with the exception of the group of elderly;

1. FITNESSGRAM, Technical reference manual. 1994, Dallas, TX: Cooper Institute for Aerobic Research

2. Rikli R. E. and Jones C. J., *Development and validation of a functional fitness test for community-residing older adults*. J. Aging Phys Activ, 1999. 7(2): p. 129-161.

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3. Baptista F, Silva A, Santos D, Mota J, Santos R, Vale S, Ferreira J, Raimundo A, Moreira H, *Livro Verde da Aptidão Física*. Lisboa, Instituto de Desporto de Portugal, I.P. 2010. ISBN: 978-989-8330-03-1

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NATIONAL OBSERVATORY OF PHYSICAL ACTIVITY

6 280 portugueses

Youth (10-18 years)

Adults (19-64 Years)

Elderly (>64 years)

The accelerometers were used for 4 consecutive days and were considered valid records of physical activity performed at least three days, including 2 weekdays and 1 day of end-to-week, with at least 10 hours per day of registration

Results¹

1. The young boys from all over the country with 10-11 years were sufficiently active (practice of at least 60 minutes of physical activity of moderate intensity and vigorous). After this age only boys of 12-13 years in the North show adequate time on physical activity;
2. In the adult population, in men there is a prevalence of 76.7% although in women a prevalence of 63.7% of subjects sufficiently active;
3. In the elderly population, in men there is a prevalence of 44.6% while in women and a prevalence of 27.8%;

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1. Baptista F, Silva A, Santos D, Mota J, Santos R, Vale S, Ferreira J, Raimundo A, Moreira H, *Livro Verde da Actividade Física*. Lisboa, Instituto de Desporto de Portugal, I.P., 2010. ISBN: 978-989-8330-02-4

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CONCLUSIONS

- 1 - It is important to develop exercise programs for the general population, as well as specific programs for specific target groups;
- 2 - There should be inspect the results of programs to support political decision in terms of continuity programs;
- 3 - For the central decision in the development of exercise programs (national policy for sport and physical activity) is important to conduct large studies that will permit the characterization and determination of the needs of populations;

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Thank you for your attention

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